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**ARBORIST REPORT
FOR
Schoen Property
Kirkland, WA**



September 20th, 2013

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1. Introduction

American Forest Management, Inc. was contacted by Jim Jordan of Pinnacle Development Solutions, and was asked to compile an 'Arborist Report' for six newly platted parcels located within the Holmes Point overlay in the City of Kirkland, WA.

The proposed development encompasses the following parcels: 405570-1040, 1041, 1042, 1043, 1044 and 1045. Our assignment is to prepare a written report on present tree conditions, which is to be filed with the land surface modification permit application.

This report encompasses all the criteria set forth under the City of Kirkland's tree regulations and Holmes Point Overlay Zone. The total area equals 54,911 sq. ft. or 1.26 acres.

Date of Field Examination: September 18th and 19th, 2013

2. Description

The topography of the subject property slopes moderately west down to Holmes Point Drive. There are no sensitive areas on or adjacent to the parcel. 160 significant trees were located and assessed on the property. Another 17 trees were assessed in the utility easement that borders the property to the north. Two trees on the neighboring property to the south with drip-lines extending on to the subject parcel were also identified and assessed.

The subject trees are comprised solely of a mix of native coniferous and deciduous species. Species include primarily Douglas-fir and Pacific madrone; with moderate components of western red cedar, Oregon ash and big leaf maple; and lesser components of black cottonwood.

All of the significant trees on the subject property have been previously identified with a numbered aluminum tag attached to the lower trunk of the tree. These tree numbers were used for this assessment. Field tree numbers correspond with attached Tree Condition Summary sheets.

3. Methodology

Each tree in this report was visited. Tree diameters were measured by tape. The tree heights were measured using a Spiegel Relaskop. Each tree was visually examined for defects and vigor. The tree assessment procedure involves the examination of many factors:

- The crown of the tree is examined for current vigor. This is comprised of inspecting the crown (foliage, buds and branches) for color, density, form, and annual shoot growth, limb dieback and disease. The percentage of live crown is estimated for coniferous species only and scored appropriately.
- The bole or main stem of the tree is inspected for decay, which includes cavities, wounds, fruiting bodies of decay (conks or mushrooms), seams, insects, bleeding, callus development, broken or dead tops, structural defects and unnatural leans. Structural defects include crooks, forks with V-shaped crotches, multiple attachments, and excessive sweep.
- The root collar and roots are inspected for the presence of decay, insects and/or damage, as well as if they have been injured, undermined or exposed, or original grade has been altered.

Based on these factors a determination of viability is made. Trees considered 'non-viable' are trees that are in poor condition due to disease, extensive decay and/or cumulative structural defects, which exacerbate failure potential. A 'viable' tree is a tree found to be in good health, in a sound condition with minimal defects and is suitable for its location. Also, it will be wind firm if isolated or left as part of a grouping or grove of trees. A 'borderline' viable tree is a tree where its viability is in question. These are trees that are beginning to display symptoms of decline due to age, species related problems and/or man caused problems. Borderline trees are not expected to positively contribute to the landscape for the long-term and are not recommended for retention.

4. Observations

The site is basically a remnant piece of undeveloped second-growth native forest. Species composition is mixed with an uneven-age class of trees. Trees have developed typical structure for their growing environment. Species characteristics are described as follows:

The Douglas-fir is of fairly good condition. The dominant and co-dominant trees are sound and relatively free of significant defects. Several have swelled butts but appear sound with no other outward indicators of internal decay. No evidence of root disease was observed on the property. The foliage is of normal color and density. The smaller intermediate and suppressed Douglas-fir trees have developed poor trunk taper due to competition with surrounding trees.

The Pacific madrone trees overall are in fairly good condition. These have developed typical crown forms which in most cases extend excessively in one direction to fill a void in the canopy. Five dead madrone trees were identified in the northeast corner of the property. These were primarily smaller diameter trees that likely suffered from suppression by larger adjacent trees. Some of the madrones have significant branch dieback. *Nattrassia* cankers were observed on the lower trunks of a few trees in that northeast portion of the property.

The Oregon ash trees have also developed typical crown forms in a forested environment. Most crowns are asymmetric in shape as a result of competition. For the same reason, most have developed poor trunk taper resulting in tall and skinny trees. Foliage color and vigor appear good. No indicators of decline were observed.

The big leaf maple is comprised of a couple mature specimens and several younger specimens. The older maple has significant defect, primarily *Hypoxylon duetum* infections and major crown dieback. The younger specimens for the most part have developed poor trunk taper and asymmetric crown shapes as a result of intense competition for sunlight.

Of the 160 parcel trees assessed, 17 are considered non-viable, of which nine of these are completely dead. These include five dead madrone and two dead cedar. Another 32 are considered 'borderline' viable. Of the 17 trees assessed in the utility easement, two are considered non-viable and two are considered 'borderline'. The non-viable live trees are discussed as follows:

Tree #5167 is a 24" cottonwood on the south perimeter. The main stem is broken at approximately 55' above ground. The tree leans heavily to the southwest and is covered in ivy. Failure risk is high. The other three over-mature cottonwoods around #5167 are all 'borderline' viable. All have extreme ivy infestations.

Tree #5027, a mature western red cedar situated above Holmes Point Drive has an extensive decay column and open cavity. Vigor is low and health appears to be declining. The risk of trunk failure is high.

Tree #5125 in the utility easement is in poor condition. Extensive rot was observed on the lower trunk associated with a very old injury to the trunk. The subject leans to the south. The risk of trunk failure is high.

Tree #5094, the only red alder on the site is also situated within the utility easement. This young tree is in obvious decline, evident by a dying top and major limb tip dieback.

Tree #5013 is a young broken big leaf maple. The main stem failed at approximately 20' above ground. Good crown structure has been permanently compromised.

Trees #5003, #5004 and #5005 are young to semi-mature Oregon ash trees at the front of the property. All have developed very poor trunk taper and crown form due to intense competition with surrounding vegetation. All are highly susceptible to breakage from wind, ice or snow events.

Tree #5020 is a semi-mature cherry at the front of the property near the right-of-way line. This tree is comprised of two small stems which fork at one foot above ground. The narrow forked attachment is inherently weak. Both lower stems are infected with wood borers and cherry gummosis. The subject is not expected to survive for another five years.

Trees assessed as 'borderline' have significant defect. Most have developed poor trunk taper and crown form from intense competition with surrounding trees. Many have significant uncorrected leans and major ivy infestations.

Understory Vegetation

The density of English ivy is a significant concern on the property. It is found in all portions of the site and has encroached upon more than two-thirds of the subject trees. The ivy has limited the growth of native groundcovers. Native groundcovers of salal, swordfern and Oregon grape are found scattered across the property. Native shrubs are found across the property and are primarily comprised of beaked hazelnut and Indian plum; with minor components of oceanspray, baldhip rose and red huckleberry. Shrub density is variable and shrubs are often found in small groupings.

The southern middle portion of the site has a significant infestation of non-native Himalayan blackberry. Here the blackberry is inhibiting the growth of any trees or native vegetation.

5. Discussion

The extent of drip-lines (farthest reaching branches) for all viable trees can be found on the tree summary tables at the back of this report. The recommended Limits of Disturbance for viable trees can also be found on the tree summary tables. This information will aid in determining the most suitable trees for future retention. The attached map indicates the locations of viable trees, non-viable trees, 'borderline' trees, dead trees and non-significant trees. The information on the attached site plan needs to be transferred to a final tree retention/protection plan to meet City submittal requirements. The information on the map and in this report shall be used to develop such a plan. The trees that are to be removed shall be shown "X'd" out on the final plan. Trees to be retained shall include the limits of disturbance line and tree protection fencing locations. Tree protection fencing shall be initially positioned just beyond the drip-line of any retained tree, and only moved back to the Limits of Disturbance line when work is authorized.

For the land surface modification phase to construct the access drive and install utilities, a tree plan has been developed which is attached and part of this report. This plan indicates necessary tree removals for proposed infrastructure. The decision to whether or not retain a tree near the clearing limit of the access drive is based on tree condition, species and size; as well as anticipated impacts from grading and rockery construction.

The recommended Limits of Disturbance for neighboring trees can also be found in the tree summary tables. Tree protection fencing shall be initially positioned at the drip-line, and only moved to allow work up to the Limits of Disturbance lines. Include tree protection for neighboring trees on final drawing.

There are no significant concerns regarding impacts to neighboring trees. Existing grades shall be maintained within drip-lines of the two neighboring trees along the south perimeter. There are no issues on the neighboring property to the east. It is assumed all trees within the utility easement outside of the work necessary to construct access drive can be feasibly retained. There is already an established walking trail within the utility easement that runs along the north perimeter of the property. This trail should be maintained and improved and not rerouted to avoid any unnecessary impacts to existing trees.

The most feasible locations for tree retention appear to be along the north perimeter, the northeast portion of the site and along the north portion of the east property line.

There are no areas supporting high quality native vegetation. The site contains common species in limited numbers. The quality of the native vegetation is compromised by the prevalence of English ivy over the entire site, and the infestation of Himalayan blackberry in the southern portion. In areas where trees are to be retained, the quality and density of native vegetation can be improved by removing the non-native invasive plant species. The ivy climbing any retained tree shall be cut and as much removed as possible without damaging trees.

6. Tree Protection Measures

The following guidelines are recommended to ensure that the designated space set aside for the preserved trees are protected and construction impacts are kept to a minimum. Standards have been set forth under Kirkland Zoning Code 95.34 of Chapter 95. Please review these standards prior to any development activity.

1. Tree protection fencing shall be erected per prior to moving any heavy equipment on site. Doing this will set clearing limits and avoid compaction of soils within root zones of retained trees.
2. Excavation limits should be laid out in paint on the ground to avoid over excavating.
3. Excavations within the drip-lines of retained trees shall be monitored by a qualified tree professional so necessary precautions can be taken to decrease impacts to tree parts. A qualified tree professional shall monitor excavations when work is required and allowed up to the "limits of disturbance".
4. To establish sub grade for foundations, curbs and pavement sections near the trees, soil should be removed parallel to the roots and not at 90 degree angles to avoid breaking and tearing roots that lead back to the trunk within the drip-line. Any roots damaged during these excavations should be exposed to sound tissue and cut cleanly with a saw. Cutting tools should be sterilized with alcohol.
5. Areas excavated within the drip-line of retained trees should be thoroughly irrigated weekly during dry periods.
6. Preparations for final landscaping shall be accomplished by hand within the drip-lines of retained trees. Large equipment shall be kept outside of the tree protection zones.

7. Tree Replacement

Supplemental trees may be required to meet minimum tree density requirements for individual lots depending on proposed tree retention. New tree plantings shall be given appropriate space for the species and their growing characteristics. Refer to the *Kirkland Plant List* on the City's website for a list of desirable species.

Supplemental trees shall be used to enhance tree retention areas. The planting of native western red cedar is recommended, as these are shade tolerant and will do well in the understory of the Douglas-fir and pacific madrone.

For planting and maintenance specifications, refer to chapters 95.50 and 51 of the Kirkland Zoning Code. Tree credits can be found on the summary tables for each viable tree not affected by the LSM phase. There are a total of 450.5 viable tree credits available.

There is no warranty suggested for any of the trees subject to this report. Weather, latent tree conditions, and future man-caused activities could cause physiologic changes and deteriorating tree condition. Over time, deteriorating tree conditions may appear and there may be conditions, which are not now visible which, could cause tree failure. This report or the verbal comments made at the site in no way warrant the structural stability or long term condition of any tree, but represent my opinion based on the observations made.

Nearly all trees in any condition standing within reach of improvements or human use areas represent hazards that could lead to damage or injury.

Please call if you have any questions or I can be of further assistance.

Sincerely,



Bob Layton
ISA Certified Arborist #PN-2714A
ISA Tree Risk Assessor Qualified

Site Photo – NE Portion of site



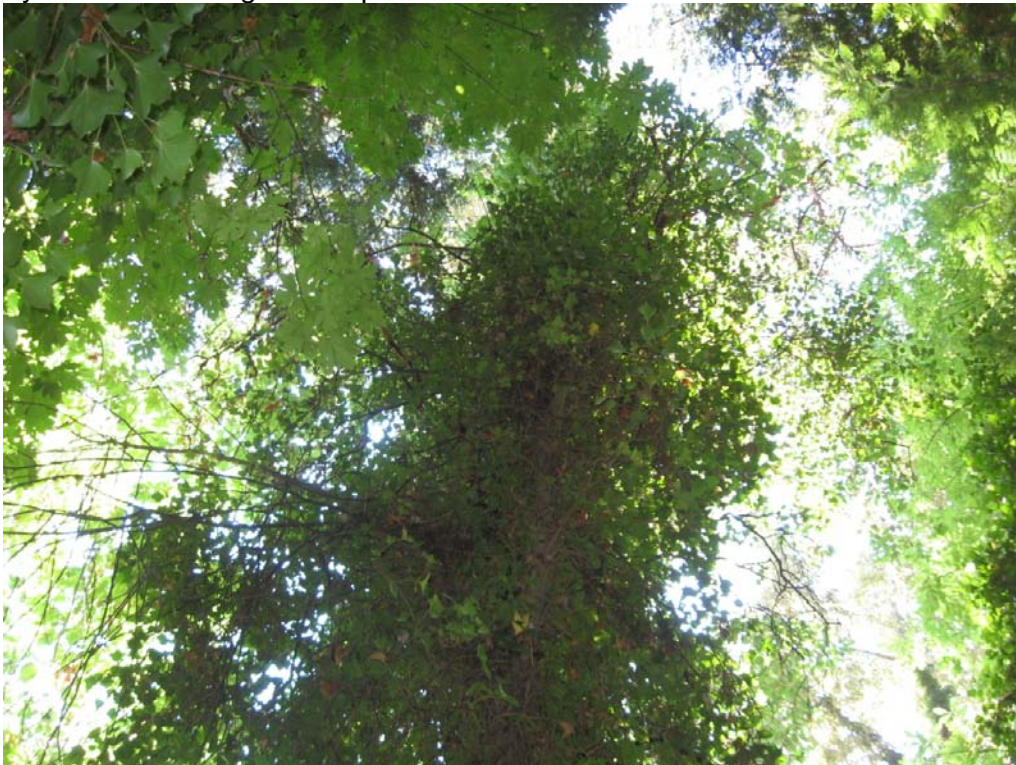
Southern portion of site



West portion



Ivy infestation in big leaf maple



Nattrassia canker on Pacific madrone #5151



Subject cottonwood trees #5165, #5166, #5167 and #5168



Subject Trees #5003, #5004 and #5005 at front of property



Extensive decay in lower trunk of #5125



City of Kirkland - Tree Protection Standards

1. Tree Protection Fencing shall be erected at prescribed distance per arborist report. Fences shall be constructed of chain link and be at least 4 feet high.
2. Install highly visible signs on protection fencing spaced no further than 15 feet apart. Signs shall state "Tree Protection Area-Entrance Prohibited", and "City of Kirkland" code enforcement phone number.
3. No work shall be performed within protection fencing unless approved by Planning Official. In such cases, activities will be approved and supervised by a "Qualified Professional".
4. The original grade shall not be elevated or reduced within protection fencing without the Planning Official authorization based on recommendations from a qualified professional.
5. No building materials, spoils, chemicals or substances of any kind will be permitted within protection fencing.
6. Protection Fencing shall be maintained until the Planning Official authorizes its removal.
7. Ensure that any approved landscaping within the protected zone subsequent to the approved removal of protection fencing be performed with hand labor.

In addition to the above, the Planning Official may require the following:

- a. If equipment is authorized to operate within the root zone, the area will be mulched to a depth of 6" or covered with plywood or similar material to protect roots from damage caused by heavy equipment.
- b. Minimize root damage by excavating a 2-foot deep trench, at edge of protection fencing to cleanly sever the roots of protected trees.
- c. Corrective pruning to avoid damage from machinery or building activity.
- d. Maintenance of trees throughout construction period by watering and fertilization.

Tree Summary Table 1

For: Schoen Property
Kirkland

American Forest Management, Inc.

Date: 9/18/2013
Inspector: Layton

Tree/Tag #	Species	Native/ Planted/ Volunteer	DBH	Height	Tree Credit	Drip-Line/Limits of Disturbance (feet)				Condition	Viable yes/no	Comments
						N	S	E	W			
5135	Oregon ash	N	19	68	5.5	0/10	25/10	14/na	8/10	fair	yes	lean se, some trunk decay, mod risk
5134	Pacific madrone	N	21, 19	79	7	0/12	14/12	22/na	6/12	fair	yes	19" stem has heavy, 2 cavities on 21"
5133	Douglas-fir	N	14	53	3	4/10	6/10	8/8	4/8	fair	yes	suppressed, ivy infestation
5132	Douglas-fir	N	24	112	8	8/12	10/12	12/10	4/12	fair-good	yes	ivy infestation
5131	Douglas-fir	N	27	121	9.5	12/12	14/12	6/10	10/12	fair-good	yes	ivy infestation
5130	Douglas-fir	N	12	88	na	7/8	4/8	3/8	6/8	fair	borderline	broken top, ivy, can't isolate
5138	Douglas-fir	N	10	70	na	2/6	6/6	4/6	6/6	fair	borderline	broken top, can't isolate, ivy
5137	Pacific madrone	N	14		na	x	x	x	x	dead	no	dead
5136	Pacific madrone	N	12	72	2	0/10	6/10	0/10	24/10	fair	yes	moderate branch dieback
5127	Douglas-fir	N	19	125	5.5	10/12	12/12	6/10	6/12	fair	yes	old broken top, okay
5128	Pacific madrone	N	13	70	2.5	25/10	0/10	0/10	6/10	fair	yes	heavy lean north
5126	Pacific madrone	N	11	61	na	0/na	8/10	0/10	16/10	fair-poor	borderline	significant branch dieback
5124	Douglas-fir	N	28	130	10	10/na	12/12	8/12	12/12	fair	yes	moderate trunk sweep
5122	Douglas-fir	N	20	110	6	10/10	14/12	8/10	12/12	fair	yes	no significant concerns
5123	Pacific madrone	N	8		na	x	x	x	x	dead	no	dead
5140	Pacific madrone	N	11		na	x	x	x	x	dead	no	hung up
5121	Pacific madrone	N	11	60	1.5	16/8	2/8	2/8	10/8	fair	yes	small crown
5120	Douglas-fir	N	13	90	2.5	4/10	10/12	2/8	8/10	fair	yes	poor taper, don't isolate
5111	Pacific madrone	N	12	68	2	0/10	25/10	0/10	0/10	fair-good	yes	heavy lean south, old cavity
5112	grand fir	N	24	111	8	6/10	12/12	12/12	6/12	fair-good	yes	good taper
5113	western red cedar	N	6	29	1	7/6	4/6	4/6	6/6	fair-good	yes	understory tree
5114	Pacific madrone	N	30	70	na	0/12	45/14	14/12	8/12	fair	borderline	excessive lean south, root plate failure
5115	western red cedar	N	22	62	na	6/12	14/12	10/10	10/12	good	yes	no concerns
5119	Douglas-fir	N	9	60	na	4/8	6/8	6/8	3/8	fair	borderline	poor taper, don't isolate
5143	Pacific madrone	N	15	78	3.5	0/10	10/10	0/10	25/10	fair	yes	lean, assymetric crown
5142	Pacific madrone	N	14	75	3	0/10	30/10	8/10	8/10	fair	yes	same
5141	Douglas-fir	N	11	58	1.5	6/8	8/10	8/10	6/10	fair	yes	intermediate tree, don't isolate
5139	Pacific madrone	N	17	70	4.5	0/10	10/10	0/10	24/10	fair	yes	lean, assymetric crown
5144	western red cedar	N	18	58	5	6/12	14/12	6/10	12/12	fair-good	yes	suppressed
5145	Pacific madrone	N	10	55	1	0/8	6/8	0/8	12/8	fair	yes	okay

Drip-Line and Limits of Disturbance measurements from face of trunk

Tree Summary Table 2

For: Schoen Property
Kirkland

American Forest Management, Inc.

Date: 9/18/2013
Inspector: Layton

Tree/Tag #	Species	Native/ Planted/ Volunteer	DBH	Height	Tree Credit	Drip-Line/Limits of Disturbance (feet)				Condition	Viable yes/no	Comments
						N	S	E	W			
5146	western red cedar	N	9	44	1	5/8	6/8	6/8	4/8	fair	yes	suppressed
5147	Pacific madrone	N	23	94	7.5	6/12	14/12	6/12	10/12	fair	yes	ivy encroaching crown
5148	Pacific madrone	N	10		na	x	x	x	x	dead	no	ivy covered snag
5149	Pacific madrone	N	12		na	x	x	x	x	dead	no	ivy covered snag
5150	Douglas-fir	N	21	102	6.5	8/12	8/12	6/10	8/12	fair-good	yes	no significant concerns, ivy infestation
5158	Douglas-fir	N	24	110	8	6/12	10/12	6/10	8/12	fair-good	yes	no significant concerns, ivy infestation
5151	Pacific madrone	N	13	56	na	6/10	0/10	25/10	0/10	fair-poor	borderline	nattrassia canker infection
5157	Pacific madrone	N	18	70	5	8/10	8/12	4/10	14/10	fair	yes	good form, large cavity at base
5159	big leaf maple	N	7	38	na	10/6	12/	8/6	14/6	fair	borderline	young cluster, poor development
5160	western red cedar	N	8	26	1	2/10	10/10	6/10	10/10	fair	yes	suppressed, self-corrected lean
5156	Douglas-fir	N	12	55	na	0/10	10/10	8/10	2/10	fair	borderline	covered in ivy, heavy lean
5152	Douglas-fir	N	27	105	9.5	3/12	12/14	12/na	12/12	good	yes	no significant concerns
5153	Douglas-fir	N	16	68	4	6/10	13/12	12/na	10/12	fair-good	yes	somewhat suppressed
5155	Douglas-fir	N	11	22	1.5	6/10	12/10	8/na	3/10	fair-poor	yes	old broken top, low risk
5154	Douglas-fir	N	28	114	10	12/12	10/12	10/na	12/12	good	yes	no concerns
5161	Oregon ash	N	6	32	na	4/6	6/6	5/6	6/6	fair-poor	borderline	consumed in ivy
5162	Oregon ash	N	7	38	na	6/6	10/6	4/	8/6	fair-poor	borderline	consumed in ivy
5117	black cottonwood	N	31	126	na	na	na	na	na	fair	borderline	mature, consumed in ivy
5164	Pacific madrone	N	20	70	na	40/10	0/12	0/10	0/12	fair-poor	borderline	consumed in ivy, excessive lean
5163	black cottonwood	N	30	110	na	na	na	na	na	fair	borderline	mature, covered in ivy
5165	black cottonwood	N	38	132	na	na	na	na	na	fair-poor	borderline	overmature
5167	black cottonwood	N	24	54	na	na	na	na	na	poor	no	broken, heavy lean
5166	black cottonwood	N	33	125	na	na	na	na	na	fair	borderline	overmature
5168	black cottonwood	N	38	130	na	na	na	na	na	fair	borderline	overmature
5110	big leaf maple	N	29	106	10.5	22/12	24/12	0/12	22/14	fair	yes	fairly good form
6000	Douglas-fir	N	22	110	7	12/12	7/12	8/12	10/12	fair	yes	old wound north side, crooks
5086	western red cedar	N	28	72	10	12/12	14/12	10/12	12/12	fair-good	yes	somewhat suppressed, good color
5072	Douglas-fir	N	31	128	11.5	10/12	13/13	10/12	8/12	fair-good	yes	good taper, swollen base
5073	Douglas-fir	N	33	102	12.5	12/12	10/12	9/12	14/12	fair	yes	swollen base, with moderate crook
5074	Pacific madrone	N	6		na					dead	no	dead

Drip-Line and Limits of Disturbance measurements from face of trunk

Tree Summary Table 3

For: Schoen Property
Kirkland

American Forest Management, Inc.

Date: 9/18/2013
Inspector: Layton

Tree/Tag # Species		Native/ Planted/ Volunteer	DBH	Height	Tree Credit	Drip-Line/Limits of Disturbance (feet)				Condition	Viabile	Comments
						N	S	E	W		yes/no	
5075	Pacific madrone	N	9	53	na	0/6	0/6	0/6	20/6	fair-poor	borderline	heavy lean west
5071	Douglas-fir	N	22	95	7	10/10	10/12	8/10	12/12	fair	yes	swollen base, suspect some internal decay
5062	Pacific madrone	N	7	40	1	0/6	0/6	0/6	20/6	fair	yes	lean, assymmetric crown
5063	Pacific madrone	N	15	66	3.5	0/8	0/8	0/8	30/10	fair	yes	lean, assymmetric crown
5064	Pacific madrone	N	13	45	na	x	x	x	x	dead	no	dead
5065	Douglas-fir	N	14	60	3	4/10	12/12	4/10	12/12	fair	yes	suppressed, stunted top
5066	Douglas-fir	N	26	109	9	3/12	14/12	8/12	12/12	fair	yes	swollen base, suspect some internal decay
5067	Pacific madrone	N	6	14	na	0/6	10/6	0/6	2/6	fair-poor	borderline	old dead top, poor form, low risk
5068	Pacific madrone	N	15	65	3.5	0	0	0	17/10	fair	yes	no major concerns
5069	Pacific madrone	N	7	40	1	0	0	16	0	fair	yes	significant branch dieback
5070	Pacific madrone	N	20	85	6	8	20	15	10	fair-good	yes	good form
5087	Pacific madrone	N	29	92	na	4/12	40/14	6/10	25/12	fair	yes	leans south
5118	big leaf maple	N	15	52	na	12/10	12/10	12/10	18/12	fair	yes	covered in ivy
5081	big leaf maple	N	10	64	na	6/8	12/10	12/8	5/8	fair	yes	poor taper
5082	big leaf maple	N	9	55	na	0/8	18/10	10/8	10/8	fair	yes	poor taper
5061	western red cedar	N	44	104	na	16/16	12/14	12/12	16/14	fair-good	yes	minor trunk decay, good color
6001	Pacific madrone	N	28	95	na	30/15	6/na	22/12	0/12	fair	yes	heavy lean north, ivy infestation
5080	big leaf maple	N	20.8	81	na	22/14	na	20/14	24/14	fair	yes	good form
5083	Douglas-fir	N	30	102	na	12/14	na	na	na	fair	yes	old broken top, good color
5078	big leaf maple	N	9	44	na	na	na	na	na	fair	yes	poor taper
5079	big leaf maple	N	14	50	na	na	na	na	na	fair	yes	major fork, codominant stems
7000	red oak	P	10	40	na	8/8	na	na	na	fair	yes	leans south
5029	western red cedar	N	40	88	na	10/14	14/14	8/12	16/14	fair	yes	some limb tip dieback, trunk rot, okay vigor
5030	western red cedar	N	28	60	na	10/12	6/12	16/12	0/12	fair-poor	borderline	lean, trunk rot, broken top
5032	Pacific madrone	N	21	64	na	0	30	0	10	fair	yes	heavy lean
5031	Pacific madrone	N	17	62	na	0	25	0	25	fair	yes	heavy lean
5034	black cottonwood	N	17	70	na	0	12	0	26	fair-poor	borderline	heavy lean, poor form
5033	Pacific madrone	N	16	52	4	8/10	8/12	0/10	24/12	fair	yes	moderate lean
6002	black cottonwood	N	13	70	2.5	10/10	na	10/10	12/12	fair	yes	young
5028	western red cedar	N	38	76	15	14/12	14/14	12/12	15/14	fair-good	yes	sound

Drip-Line and Limits of Disturbance measurements from face of trunk

Tree Summary Table 4

For: Schoen Property
Kirkland

American Forest Management, Inc.

Date: 9/18 & 19/2013
Inspector: Layton

Tree/Tag #	Species	Native/ Planted/ Volunteer	DBH	Height	Tree Credit	Drip-Line/Limits of Disturbance (feet)				Condition	Viable yes/no	Comments
						N	S	E	W			
5027	western red cedar	N	40	72	na	na	na	na	na	poor	no	extensive trunk rot, high risk for failure
5026	Douglas-fir	N	30	80	11	14/12	4/12	7/12	8/14	fair	yes	self corrected lean, good taper, good color
5036	Oregon ash	N	10	58	1	10/8	12/8	10/8	12/10	fair	yes	fork in lower trunk, codominant stems
5037	Oregon ash	N	8	50	na	na	na	na	na	fair	yes	poor taper
5038	Oregon ash	N	11	52	na	na	na	na	na	fair	yes	poor taper
5039	big leaf maple	N	13	62	na	na	na	na	na	fair-good	yes	young, good form
5040	western red cedar	N	13	44	na	na	na	na	na	fair-good	yes	suppressed
5041	western red cedar	N	10	40	na	na	na	na	na	fair-good	yes	suppressed
5047	black cottonwood	N	22	93	na	2/10	12/12	2/10	16/14	fair	yes	mature, slight lean west
5046	western red cedar	N	21	68	na	na	na	na	na	fair-good	yes	somewhat suppressed
5088	western red cedar	N	12	55	na	na	na	na	na	fair-good	yes	suppressed
5089	western red cedar	N	23	72	na	na	na	na	na	good	yes	no concerns
5043	western red cedar	N	8	27	na	4/5	6/5	4/5	5/5	fair	yes	suppressed
5044	western red cedar	N	9	35	na	8/6	4/6	7/6	4/6	fair	yes	prior root damage from perk test
5051	Douglas-fir	N	43	145	17.5	13/14	16/14	14/14	16/14	fair-good	yes	sound, good color
6003	Pacific madrone	N	9	40	1	0/8	0/8	0/8	25/10	fair	yes	excessive lean west
6004	Pacific madrone	N	21	78	6.5	0/10	0/12	0/10	35/14	fair	yes	excessive lean west
5050	Oregon ash	N	10	38	1	6/6	9/6	6/6	11/6	fair	yes	poor crown form
5049	Pacific madrone	N	9	32	1	0/8	18/8	0/8	10/8	fair	yes	suppressed
5048	western red cedar	N	13	44	2.5	8/8	10/8	8/8	6/8	fair-good	yes	suppressed
5052	Douglas-fir	N	25	105	8.5	8/12	10/12	4/10	16/14	fair-good	yes	sound, good color
5054	Douglas-fir	N	32	128	12	14/12	7/12	10/12	10/14	good	yes	sound, good color
5053	Pacific madrone	N	17	60	4.5	0/12	0/12	0/12	55/16	fair	yes	low horizontal growth to west
5055	western red cedar	N	9	26	1	10/8	8/8	10/8	10/8	good	yes	no concerns
5056	big leaf maple	N	16,20	72	na	12/12	0/12	0/12	22/12	fair-poor	borderline	significant deadwood, basal decay
6005	big leaf maple	N	21	66	na	8/12	16/12	0/12	14/12	fair-poor	borderline	dead top, in gradual decline
6006	big leaf maple	N	19	60	na	0/12	22/12	0/12	14/12	fair	borderline	broken top, some dieback
5059	Pacific madrone	N	27	77	9.5	0/12	28/14	6/12	25/14	fair	yes	lean south, some branch dieback
5060	Pacific madrone	N	15	71	3.5	0/10	18/12	4/10	8/12	fair	yes	fairly good form
5058	big leaf maple	N	7	43	1	8/8	4/8	2/8	10/8	fair	yes	young

Drip-Line and Limits of Disturbance measurements from face of trunk

Tree Summary Table 5

For: Schoen Property
Kirkland

American Forest Management, Inc.

Date: 9/19/2013
Inspector: Layton

Tree/Tag #	Species	Native/ Planted/ Volunteer	DBH	Height	Tree Credit	Drip-Line/Limits of Disturbance (feet)				Condition	Viable yes/no	Comments
						N	S	E	W			
5057	big leaf maple	N	7	42	1	2/8	12/8	2/8	12/8	fair	yes	young
5076	Pacific madrone	N	7	30	1	0/6	12/6	0/6	14/6	fair	yes	no concerns
5077	Pacific madrone	N	7	34	1	0/6	18/6	0/6	12/6	fair	yes	no concerns
5085	Douglas-fir	N	39	106	na	12/12	16/16	14/14	15/14	fair-good	yes	suspect some internal decay, monitor
5109	western red cedar	N	10	30	1	9/8	8/8	8/8	8/8	good	yes	no concerns
5125	Douglas-fir	N	12	42	na	na	na	na	na	poor	no	ext basal edc, lean south, high risk
5108	western red cedar	N	36	95	14	12/12	14/16	8/12	16/16	good	yes	sound, good color
5129	big leaf maple	N	7	38	1	na	na	na	na	fair-good	yes	young, overtopped
6007	Douglas-fir	N	10	45	na	na	na	na	na	fair	yes	minor tr sw, ivy inf
6008	Douglas-fir	N	8	40	na	na	na	na	na	fair	yes	supp, ivy inf
6009	Pacific madrone	N	20	80	na	na	na	na	na	fair	yes	ivy inf
6010	western red cedar	N	7	25	na	na	na	na	na	fair-good	yes	understory tree
6011	Douglas-fir	N	21	102	na	na	na	na	na	fair-good	yes	sound, good color
6012	Douglas-fir	N	32	106	na	na	12/14	na	na	fair	yes	old and recent cambial ruptures
6013	big leaf maple	N	12,9,9	44	na	na	18/8	na	16/8	fair	yes	young, small clump, decent form
5042	western red cedar	N	6	17	na	4/5	6/5	3/5	5/5	fair	yes	under-story tree
5094	red alder	N	9	43	na	na	na	na	na	poor	no	in decline
5045	Oregon ash	N	16	68	4	12/10	20/12	5/10	14/12	fair	yes	sound, okay form
5090	western red cedar	N	22	67	7	12/12	10/12	8/10	10/12	good	yes	no concerns
5093	western red cedar	N	7	20	1	12/10	2/8	8/8	4/8	fair	yes	under-story tree
5095	Oregon ash	N	8	52	1	6/6	6/8	2/6	10/8	fair	yes	poor taper
5097	western red cedar	N	18	32	5	10/10	10/12	10/10	12/12	fair	yes	bent trunk, okay, suppressed
5096	Pacific madrone	N	29	93	na	18/12	10/12	0/12	22/12	fair	yes	fork at 8', codom stems, appears sound
5091	Oregon ash	N	7	24	na	0	12	5	10	fair-poor	borderline	poor form
5092	Oregon ash	N	13	72	na	0	20	0	18	fair	borderline	heavy lean southwest, not corrected
5098	western red cedar	N	26	61	9	10/12	12/12	8/12	14/12	good	yes	no concerns
5100	western red cedar	N	8	32	1	7/8	8/8	6/8	4/8	fair	yes	suppressed
5099	western red cedar	N	9	35	1	12/8	6/8	6/8	6/8	fair	yes	suppressed
5101	western red cedar	N	7	28	1	5/6	4/6	7/6	4/6	good	yes	no concerns
5102	western red cedar	N	6	22	1	6/5	5/5	5/5	6/5	fair-good	yes	suppressed

Drip-Line and Limits of Disturbance measurements from face of trunk

Tree Summary Table 6

For: Schoen Property
Kirkland

American Forest Management, Inc.

Date: 9/19/2013
Inspector: Layton

Tree/Tag #	Species	Native/ Planted/ Volunteer	DBH	Height	Tree Credit	Drip-Line/Limits of Disturbance (feet)				Condition	Viable yes/no	Comments
						N	S	E	W			
5107	Oregon ash	N	8	42	1	6/8	14/8	2/8	12/8	fair	yes	fair structure
5106	western red cedar	N	7	20	1	6/6	6/6	5/6	5/6	fair	yes	old broken top
5103	Pacific madrone	N	22	82	7	15/12	0/12	0/12	30/14	fair	yes	heavy lean southwest
5104	Douglas-fir	N	27	93	na	12/12	4/12	4/12	12/12	fair	yes	old scar, suspect some decay
6014	Douglas-fir	N	44	120	na	na	na	na	na	fair	yes	in proposed access drive
6015	Pacific madrone	N	22	64	na	na	na	na	na	fair	yes	in proposed access drive
5105	big leaf maple	N	6	33	na	8	8	8	9	fair-poor	borderline	poor form, structure
5014	big leaf maple	N	8	37	na	6	4	3	14	fair-poor	borderline	poor form, structure
5013	big leaf maple	N	6	22	na	na	na	na	na	poor	no	broken
5011	Pacific madrone	N	13	54	2.5	0	0	0	28	fair	yes	heavy lean, ivy
5015	Douglas-fir	N	35	136	13.5	13/14	18/16	10/12	18/16	fair	yes	appears sound, good color
5024	western red cedar	N	8	27	1	6/6	8/6	5/6	6/6	good	yes	no conc
5022	western red cedar	N	42	82	17	10/12	16/16	10/12	14/14	fair	yes	a little thin on top
5021	Oregon ash	N	6	36	1	5/6	4/6	2/6	12/6	fair	yes	poor form
5018	Douglas-fir	N	42	136	17	12/16	16/16	12/16	18/16	fair	yes	old tree, appears sound
5016	big leaf maple	N	24	55	na	16/12	18/14	14/12	16/14	fair-poor	borderline	poor structure, high risk, ivy infestation
5010	western red cedar	N	20	64	na	14/12	6/12	10/12	13/12	fair-poor	borderline	dead top, ivy infestation
5007	western red cedar	N	9		na	x	x	x	x	dead	no	uprooted
5008	western red cedar	N	8		na	x	x	x	x	dead	no	killed by ivy
5005	Oregon ash	N	7	32	na	na	na	na	na	poor	no	extensive decay, poor structure
5004	Oregon ash	N	7	34	na	na	na	na	na	poor	no	poor structure
5006	big leaf maple	N	9	40	na	12/8	2/8	8/8	10/8	fair-poor	borderline	poor structure, form
5003	Oregon ash	N	6	30	na	na	na	na	na	poor	no	poor structure, form
5002	Oregon ash	N	11	42	na	6/8	8/8	0/6	15/6	fair	borderline	poor structure, form
5001	Oregon ash	N	9	38	na	8	4	0	14	fair-poor	borderline	poor structure, form
5000	Oregon ash	N	6	35	na	12	0	2	6	fair-poor	borderline	poor structure, form
5017	western red cedar	N	15,12	36	4	10/10	10/12	4/8	10/6	fair	yes	suppressed
5019	western red cedar	N	21	36	na	8/10	12/8	8/10	12/6	fair-poor	borderline	top partially dead, sig decay on upper bole
5020	flowering cherry	V	6,8	22	na	na	na	na	na	poor	no	poor form, wood borers, gumossis
					65							

Drip-Line and Limits of Disturbance measurements from face of trunk



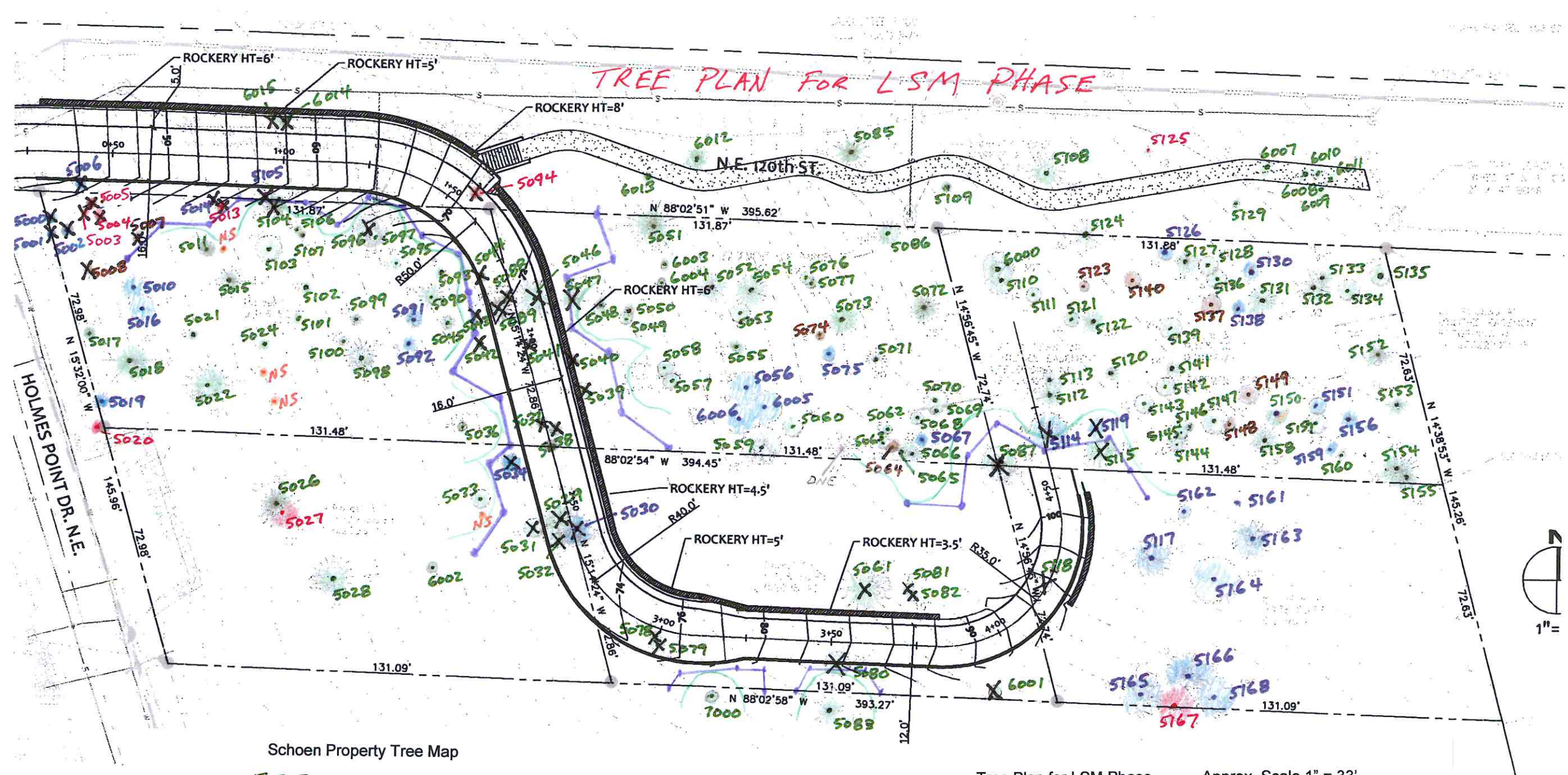
5135 Viable Tree

5092 Borderline viable (not recommended for retention)

5008 Dead Tree

NS Non-significant Tree

TREE PLAN FOR LSM PHASE



Schoen Property Tree Map

- 5135 Viable Tree
- 5027 Non-viable Tree
- 5092 Borderline viable (not recommended for retention)
- 5008 Dead Tree
- NS Non-significant Tree

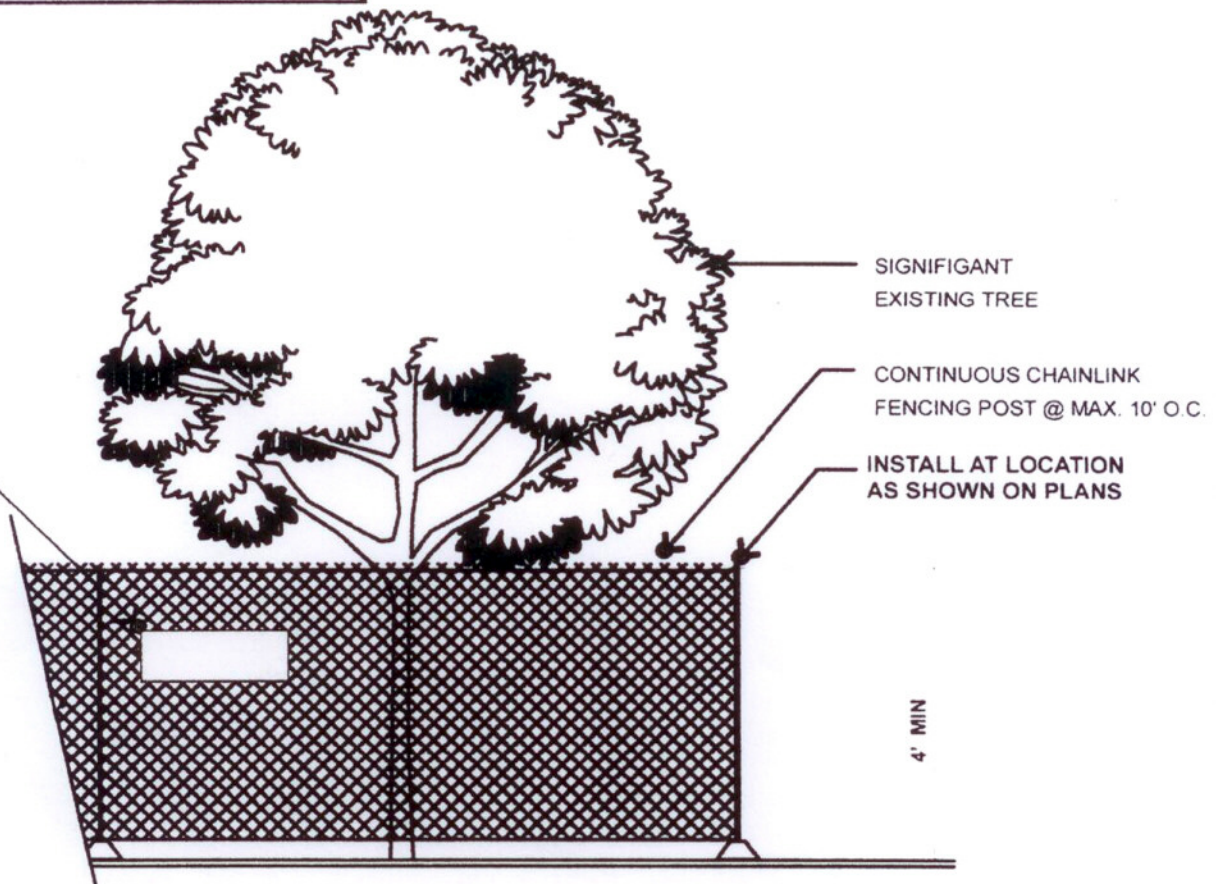
Tree Plan for LSM Phase

Approx. Scale 1" = 33'

- Drip-line
- Tree Protection fencing
- X Tree to be Removed

FENCING SIGN DETAIL

Tree Protection Area, Entrance Prohibited
To report violations contact
City Code Enforcement
at (425)587-3225



1. MINIMUM FOUR (4) FOOT HIGH TEMPORARY CHAINLINK FENCE SHALL BE PLACED AT THE CRITICAL ROOT ZONE OR DESIGNATED LIMIT OF DISTURBANCE OF THE TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE TREE (S). INSTALL FENCE POSTS USING PIER BLOCK ONLY. AVOID POST OR STAKES INTO MAJOR ROOTS. MODIFICATIONS TO FENCING MATERIAL AND LOCATION MUST BE APPROVED BY PLANNING OFFICIAL.
2. TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER ONE (1) INCH DIAMETER DAMAGED DURING CONSTRUCTION, MAKE A CLEAN STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND COVERED WITH SOIL AS SOON AS POSSIBLE.
3. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING. FENCING SHALL NOT BE MOVED OR REMOVED UNLESS APPROVED BY THE CITY PLANNING OFFICIAL. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY UNDER THE SUPERVISION OF THE ON-SITE ARBORIST AND WITH PRIOR APPROVAL BY THE CITY PLANNING OFFICIAL.
4. FENCING SIGNAGE AS DETAILED ABOVE MUST BE POSTED EVERY FIFTEEN (15) FEET ALONG THE FENCE.



TREE PROTECTION FENCING DETAIL